



TRANSFER OF TECHNOLOGY MODEL

**WOVEN BAMBOO PRODUCTS  
MANUFACTURING UNIT**

INTERNATIONAL NETWORK FOR BAMBOO AND RATTAN



# Why bamboo?

- **Bamboos** grow more rapidly than trees and start to **yield within three or four years** of planting.
- **Plantation** establishment requires **minimal capital investment** and builds upon the inherent plant-cultivation skills of local farmers and foresters.
- **Bamboos** can be **harvested annually** and non-destructively.
- **Bamboos** are excellent for **rejuvenating degraded lands** and protecting against soil erosion.
- **Bamboos** may easily be **intercropped** with shallow-rooted crops.
- As well as the culms, **all other parts** of the bamboo plant **can be used in rural livelihoods** - shoots for food, leaves for fodder, and branches for items such as brooms and for firewood.



# Why make woven products from bamboo wood?



- Due to the **unique structural properties of bamboo wood**, bamboos can be split to yield slivers, which are flexible longitudinal sections of wood much broader than they are wide, or split further into coarse or fine threads. Both are very versatile and can be used to produce a huge variety of products.
- Woven bamboo products have many **close associations** with **different cultures** and are **readily accepted by consumers**. In addition to articles of daily-use, many agricultural-use items are also woven from bamboo.
- The **skills** for weaving with bamboo are often already existent within communities or individuals. The quality and intricacy of the product, and the price attainable for it, depends greatly on the skills of the weaver. This is a strong incentive for them to maintain and upgrade their skills.

# How are woven bamboo products produced?



1. Bamboos are cross-cut into sections.
2. Sections are split into finer and finer strips.
3. Strips are further sectioned into narrow, flexible slivers.



4. A framework is produced from thicker strips of bamboo.
5. Slivers or threads are woven in place.
6. The product may be painted, varnished or otherwise decorated before sale.

## Main development attributes of a woven bamboo products unit

- **Reduces** dependence on timber resources and thereby increases environmental protection and conservation.
- **Permits** rehabilitation of degraded lands through increased areas of bamboo plantations.
- **Creates** income-generating opportunities for bamboo growers who will supply the unit, and employment for semi-skilled and skilled staff at the unit. Producing woven bamboo products is labour intensive.
- **Requires** minimal capital investment and can be established as an individual enterprise or a community enterprise.
- **The work** is gender sensitive - women are employed in all stages of woven products manufacturing.

## Some salient facts

- **Woven bamboo products** have been produced in China since Neolithic times.
- The wide **variety** of woven products that bamboo can be used to produce provides a measure of flexibility to small scale producers, who can adjust their production of different types to meet changing demand.
- Weaving can be done on a **piecework basis** by home-bound women and elderly or infirm folk, as well as at the unit itself and can thereby provide additional income opportunities during spare time.
- High quality woven products are valuable **export** commodities in many producing countries.
- Continued **innovation** and **development** of new products is necessary to promote and maintain market presence. Good access to market information is vital.



**Photo:**  
baskets for  
agricultural  
produce



# Requirements for success

- Sustained **supply** of bamboos suitable for weaving.
- Some **non-skilled** and **semi-skilled** staff and **skilled weavers**.
- **Market information** and marketing links
- Start up **capital**.



**Above:** Bamboo slivers

**Left:** Splitting bamboo by hand

# Financial aspects of a woven bamboo products unit

(based on information from a unit in China)

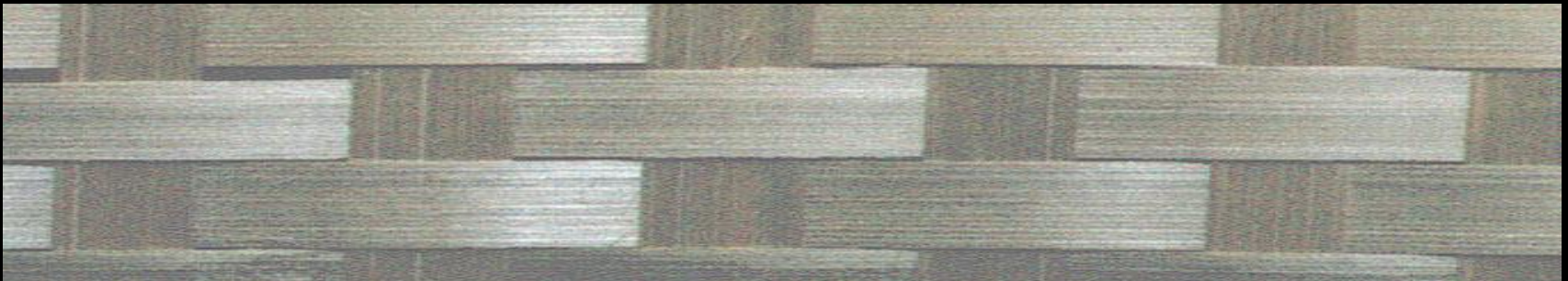
## START UP COSTS (US Dollars)

- Cross cutting machine \$180
- Splitting machine \$1300
- Peeling machines (2) \$2250
- Width-sizing machine \$250
- Smoothing machine \$500
- Drying oven \$900
- Other tools \$2400

TOTAL \$7,780

## FINANCIAL DATA

- Internal Rate of Return 15.33 %
- Benefit Cost Ratio 30.13 %
- Breakeven Period 5.01 years





# For further information

## See

### TOTEMs

Woven bamboo products TOTEM

Bamboo splitting and slivering TOTEM

Woven rattan products TOTEM

## Contact

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### Websites

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RISF: [www.forestry.ac.cn](http://www.forestry.ac.cn)

